

Figure 1: Chip Micrograph

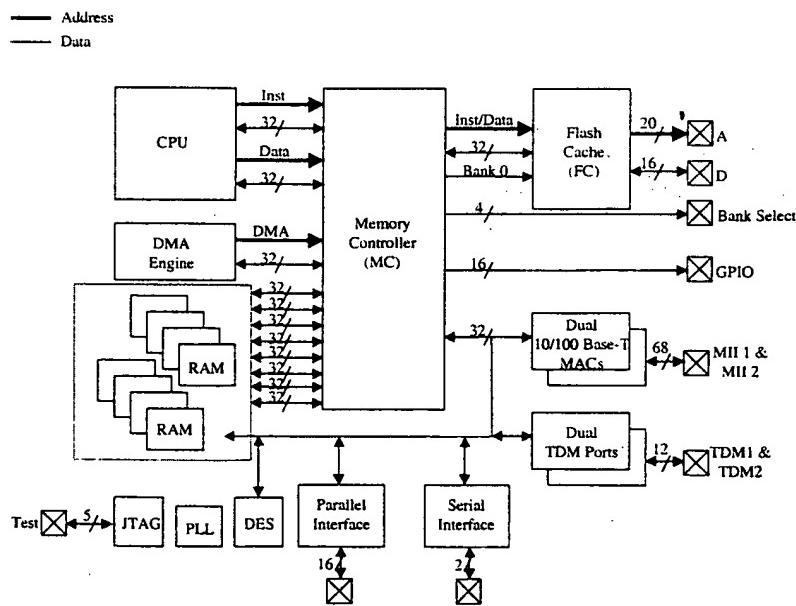
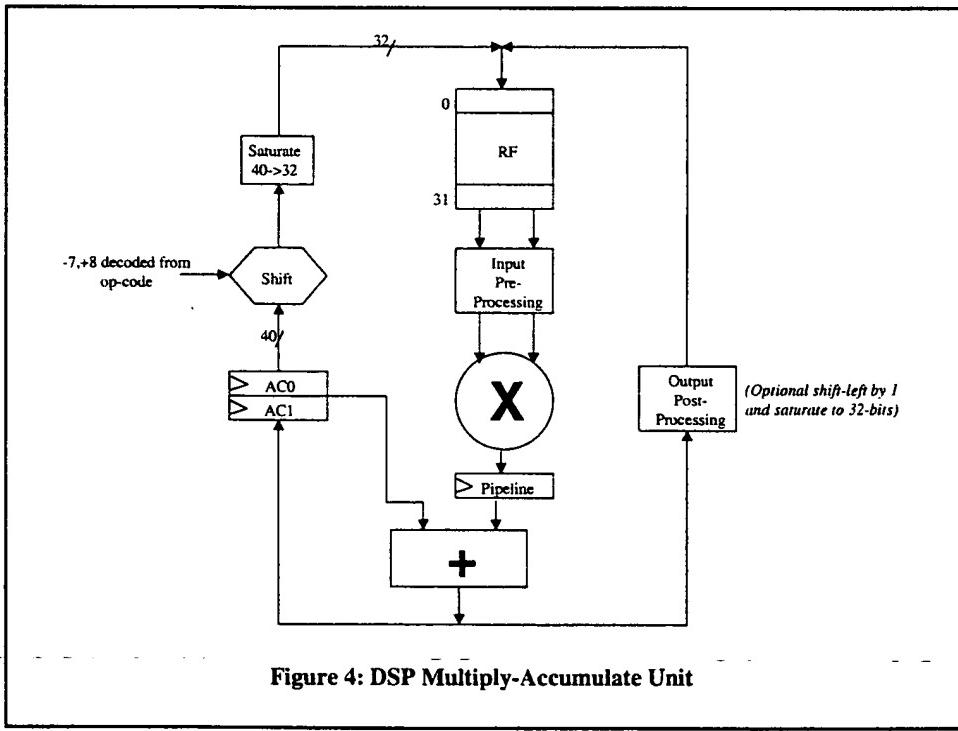
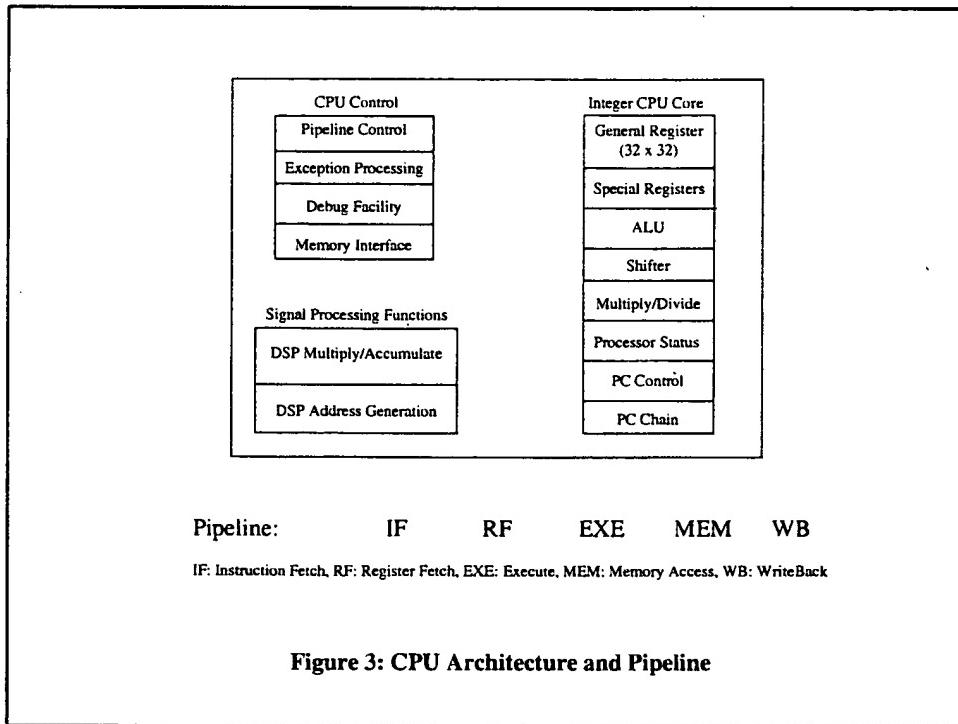
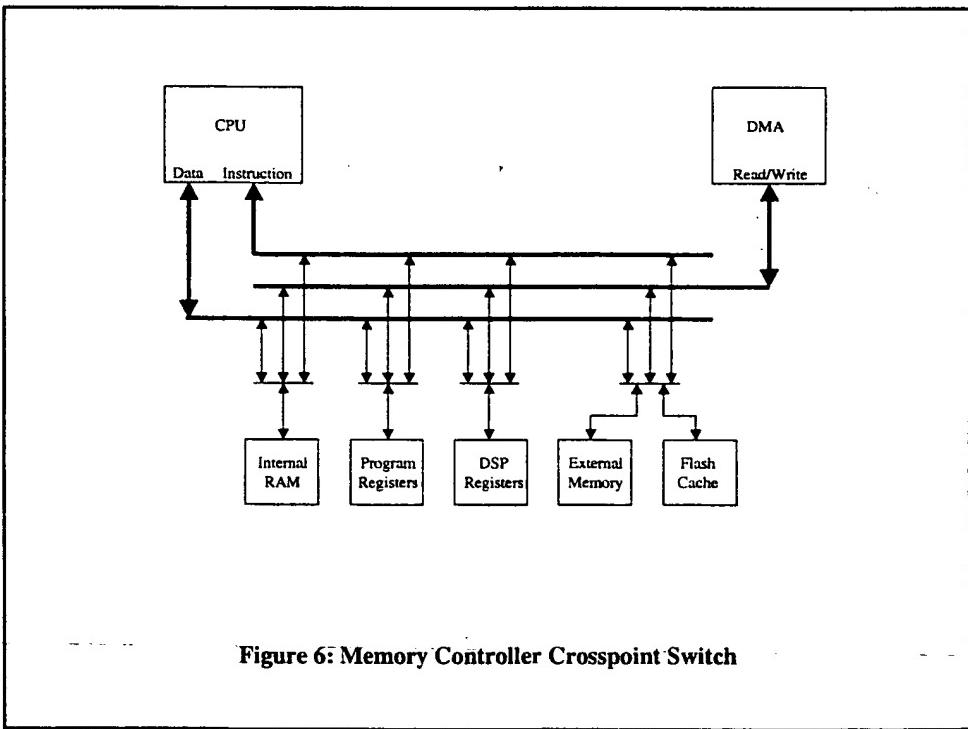
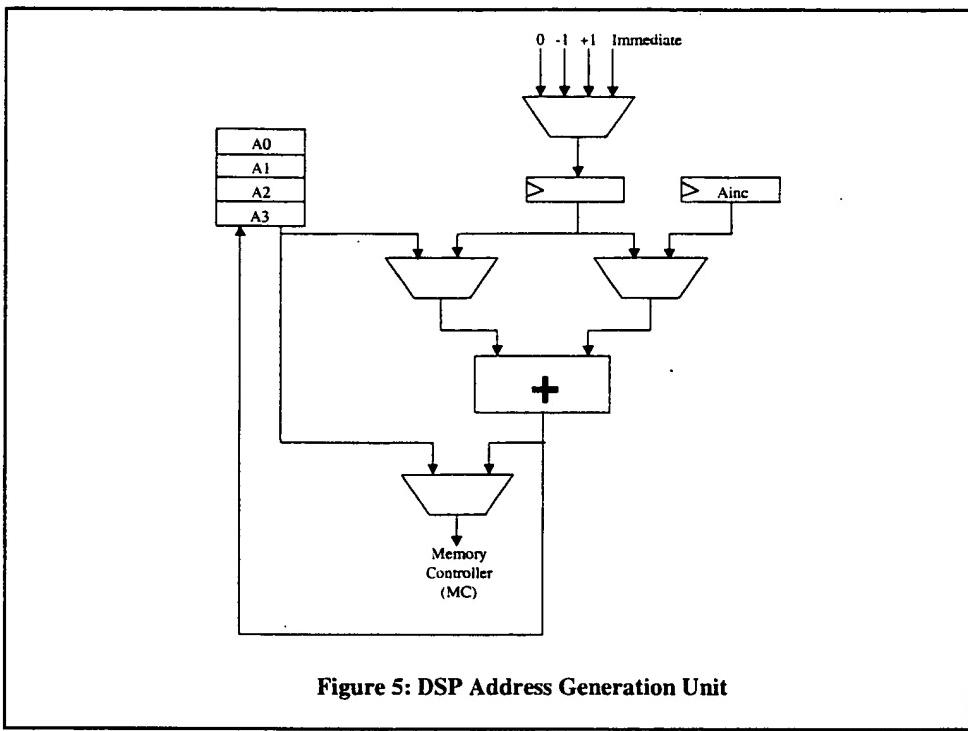


Figure 2: Processor Block Diagram





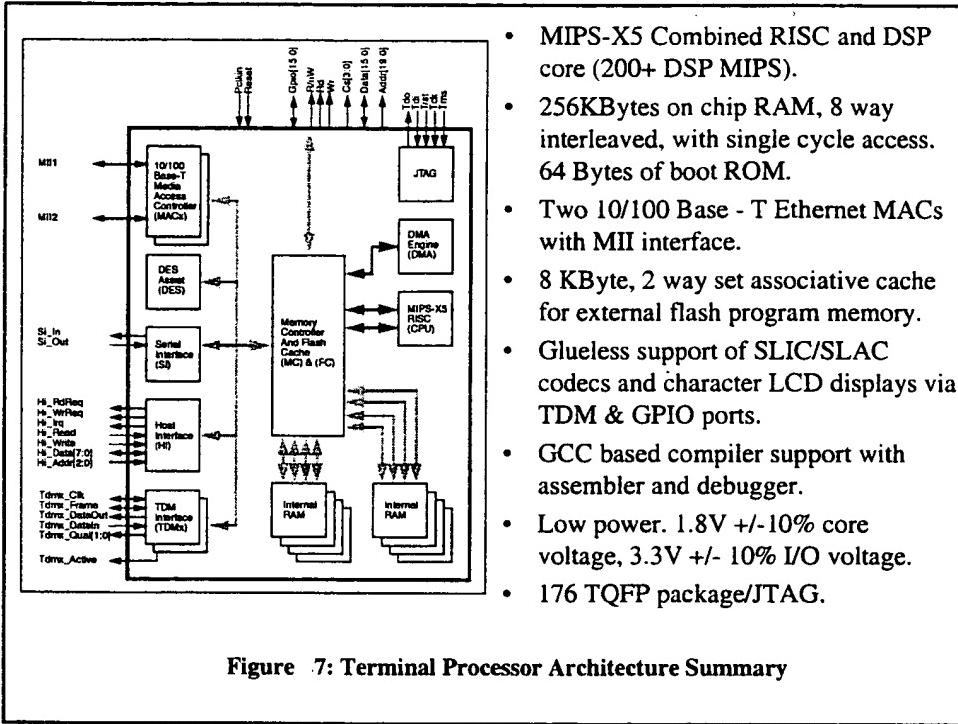


Figure 7: Terminal Processor Architecture Summary

- Software Development Tools
 - Dynamic linker, boot mechanism, compiler test suite, gdb/debug
- POSIX Operating System
 - Interrupt vector, context switching method, scheduling, semaphores, CLIB/printf
- Device Drivers
 - MAC, TDM, Host, UART
- Audio Libraries
 - G.711, G.723, G.729A, G.729E, Acoustic Echo Cancellation
- Managers
 - Audio, MAC/Network
- Applications
 - Audio loopback
 - MGCP/H.323 loopback

Figure 8: Terminal Processor Software Co-Development Tasks

- 8x8's implementation of the POSIX operating system.
- Full support for:
 - Threads (single process, multiple threads)
 - Scheduling (two algorithms -- FIFO and round robin)
 - Semaphores
 - Mutexes
 - Condition Variables
 - Message Queues
 - Signals and Timers

Figure 9: Terminal Processor Embedded OS Features

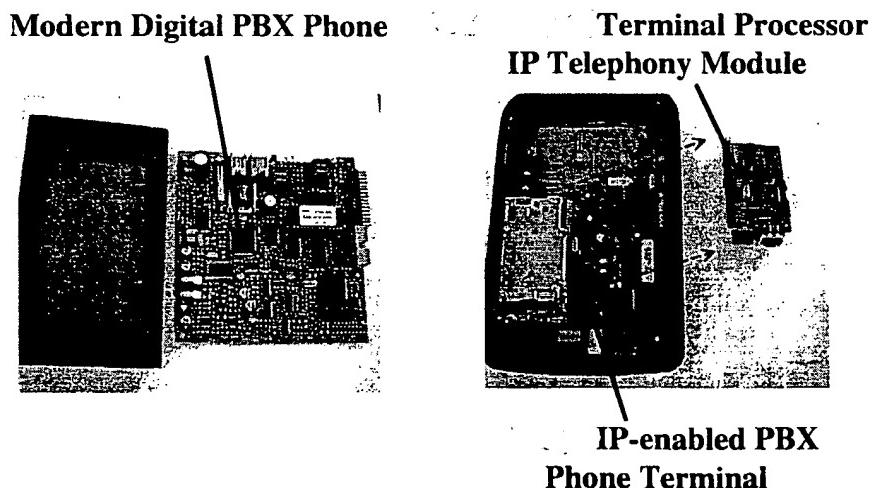


Figure 10: Terminal Processor Reference Design

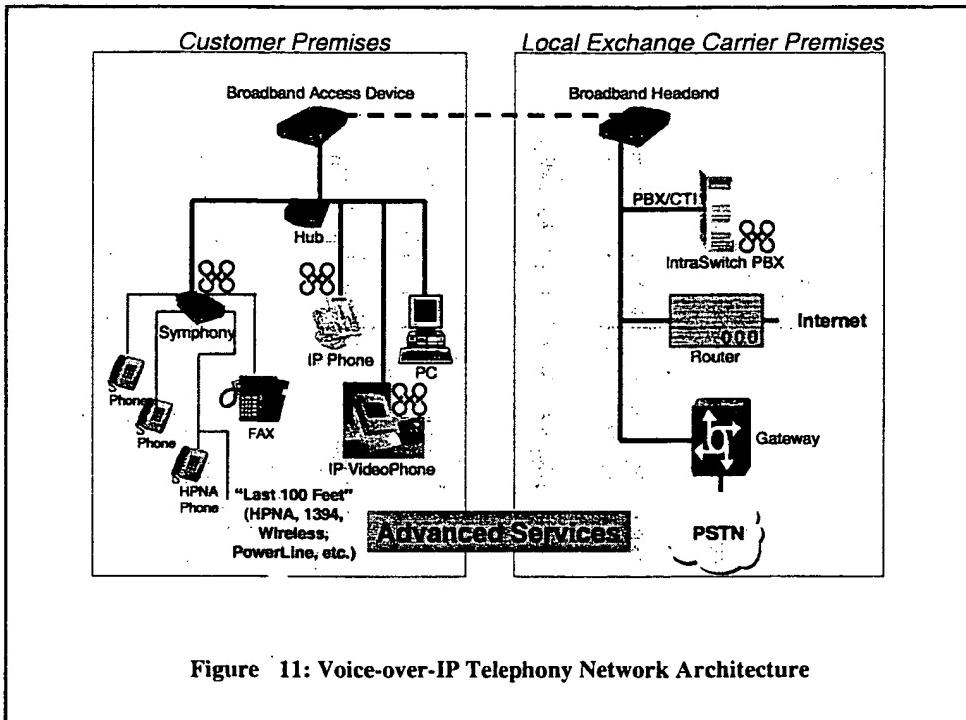


Figure 11: Voice-over-IP Telephony Network Architecture

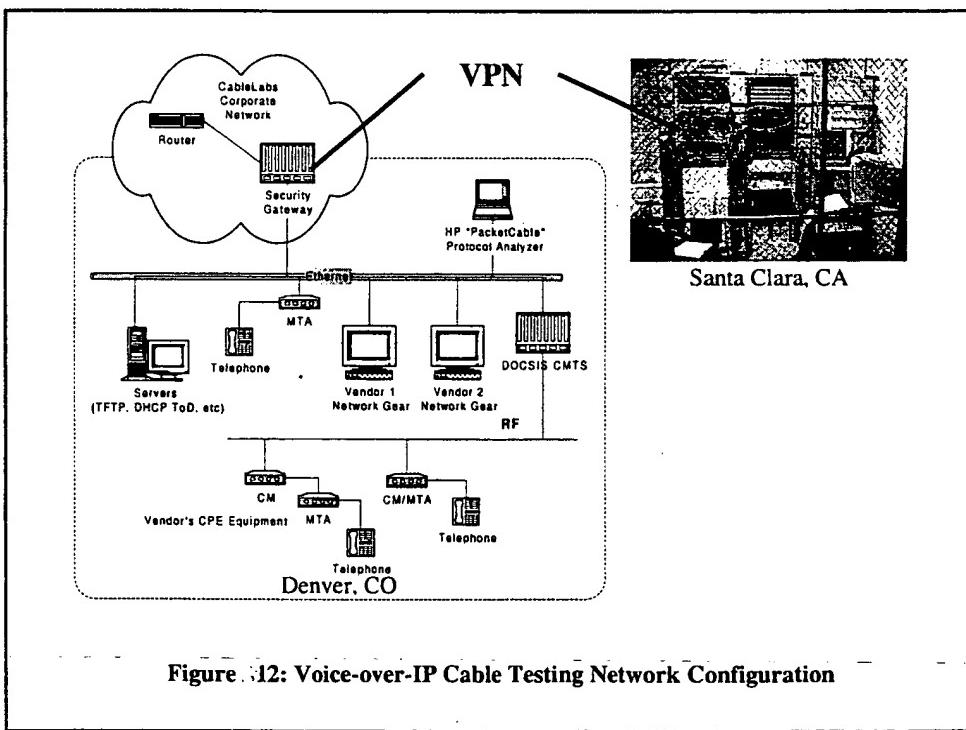


Figure 12: Voice-over-IP Cable Testing Network Configuration